

AMENDMENTS TO THE CLAIMS: This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended) A filter device comprising:

2 a housing having a first end;

4 a first ring joinable to said first end wherein said first ring has a first annular anchor on an interior portion of said first ring, wherein said first annular anchor has an upper surface and a lower surface;

6 a first flange cap joinable to said first ring forming a first seal, wherein said first flange cap is separated from contact with said first end of said housing by said first ring;

8 a plurality of microfibers extending from said first ring through said housing; ~~and~~

10 a first potting material encasing said plurality of microfibers at said first ring and encasing said upper surface and said lower surface of said first annular anchor forming a second seal; ~~and~~

12 a first plurality of rounded ridges on said upper surface of said first annular anchor and a second plurality of rounded ridges on said lower surface of said first annular anchor;

14 wherein said first annular anchor receives a surface treatment, wherein said surface treatment modifies a surface energy of said first annular anchor, and further wherein said first and second plurality of rounded ridges on said first annular anchor minimizes a delamination of said first potting material from said first annular anchor, and increases a surface area of said first annular anchor treatable through said surface treatment.

Claim 2. (Currently Amended) The filter device according to claim 1 further comprising:

a second end of said housing opposite said first end;

a second ring joinable to said second end wherein said second ring has a second annular anchor on an interior portion of said second ring, wherein said second annular anchor has an upper surface and a lower surface;

a second flange cap joinable to said second ring forming a third seal;

a second potting material encasing said plurality of microfibers at said second ring and encasing said upper surface and said lower surface of said second annular anchor forming a fourth seal; and

a third plurality of rounded ridges on said upper surface of said second annular anchor and a fourth plurality of rounded ridges on said lower surface of said second annular anchor;

wherein said second annular anchor receives said surface treatment, wherein said surface treatment modifies a surface energy of said second annular anchor, and further wherein said third and fourth plurality of rounded ridges on said second annular anchor minimizes a delamination of said second potting material from said second annular anchor, and increases a surface area of said second annular anchor treatable through said surface treatment.

Claim 3. (Original) The filter device according to claim 1 further comprising:

a first fluid inlet port through said first flange cap;

a first fluid outlet port through said second flange cap, wherein a first fluid pathway is defined by said first fluid inlet port, said plurality of microfibers, and said first fluid outlet port;

8 a second fluid inlet port through said housing and
proximate to said first end; and

10 a second fluid outlet port through said housing and
proximate to said second end, wherein a second fluid pathway is
12 defined by said second fluid inlet port, a space between said
plurality of microfibers, and said second fluid outlet port.

Claim 4. (Original) The filter device according to claim 1
2 wherein each of said plurality of microfibers are hollow and
semipermeable.

Claims 5 and 6. (Canceled)

Claim 7. (Currently Amended) The filter device according
2 to claim 6 further comprising:

a first plurality of radial channels perpendicular to said
4 first plurality of rounded ridges on said upper surface of said
first annular anchor; and

6 a second plurality of radial channels perpendicular to said
third plurality of rounded ridges on said upper surface of said
8 second annular anchor;

wherein said first and second plurality of radial channels
10 allow air to escape when said first and second potting material
is applied to said filter device.

Claim 8. (Original) The filter device according to claim 1
2 wherein said first ring is spin welded to said first end, said
second ring is spin welded to said second end, said first flange
4 cap is spin welded to said first ring, and said second flange
cap is spin welded to said second ring.

Claim 9. (Original) The filter device according to claim 8
2 further comprising:

a first plurality of nubs on an outer portion of said first
4 ring; and

a second plurality of nubs on an outer portion of said
6 second ring;

wherein said first and second plurality of nubs assist in
8 said spin welding.

Claim 10. (Original) The filter device according to claim
2 8 further comprising:

at least one annular channel located between said first
4 ring and said first end; and

at least one annular channel located between said second
6 ring and said second end;

wherein each of said at least one annular channel
8 accommodates a flow of flash material during said spin welding.

Claim 11. (Original) The filter device according to claim
2 8 further comprising:

at least one annular channel located between said first
4 ring and said first flange cap; and

at least one annular channel located between said second
6 ring and said second flange cap;

wherein each of said at least one annular channel
8 accommodates a flow of flash material during said spin welding.

Claim 12. (Original) The filter device according to claim
2 1 wherein said first ring is laser welded to said first end,
said second ring is laser welded to said second end, said first
4 flange cap is laser welded to said first ring, and said second
flange cap is laser welded to said second ring.

Claim 13. (Original) The filter device according to claim
2 1 wherein said housing is cylindrical in shape.

Claim 14. (Currently Amended) A filter device comprising:

a housing having a first end;

a first ring joinable to said first end wherein said first ring has a first annular anchor on an interior portion of said first ring, wherein said first annular anchor has an upper surface and a lower surface;

a first flange cap joinable to said first ring forming a first seal, wherein said first flange cap is separated from contact with said first end of said housing by said first ring;

a plurality of microfibers extending from said first ring through said housing;

a first potting material encasing said plurality of microfibers at said first ring and encasing said upper surface and said lower surface of said first annular anchor forming a second seal;

a first fluid inlet port through said first flange cap wherein a first portion of a first fluid pathway is defined by said first fluid inlet port and said plurality of microfibers; and

a second fluid inlet port through said housing and proximate to said first end wherein a first portion of a second fluid pathway is defined by said second fluid inlet port and a space between said plurality of microfibers; and

a first plurality of rounded ridges on said upper surface of said first annular anchor and a second plurality of rounded ridges on said lower surface of said first annular anchor;

wherein said first annular anchor receives a surface treatment, wherein said surface treatment modifies a surface energy of said first annular anchor, and further wherein said first and second plurality of rounded ridges on said first annular anchor minimizes a delamination of said first potting material from said first annular anchor, and increases a surface

area of said first annular anchor treatable through said surface
34 treatment.

Claim 15. (Currently Amended) The filter device according
2 to claim 14 further comprising:

a second end of said housing opposite said first end;

4 a second ring joinable to said second end wherein said
second ring has a second annular anchor on an interior portion
6 of said second ring, wherein said second annular anchor has an
upper surface and a lower surface;

8 a second flange cap joinable to said second ring forming a
third seal;

10 a second potting material encasing said plurality of
microfibers at said second ring and encasing said upper surface
12 and said lower surface of said second annular anchor forming a
fourth seal;

14 a first fluid outlet port through said second flange cap
wherein a second portion of said first fluid pathway is defined
16 by said second fluid outlet port and said plurality of
microfibers;—and

18 a second fluid outlet port through said housing and
proximate to said second end wherein a second portion of said
20 second fluid pathway is defined by said second fluid outlet port
and said space between said plurality of microfibers; and

22 a third plurality of rounded ridges on said upper surface
of said second annular anchor and a fourth plurality of rounded
24 ridges on said lower surface of said second annular anchor;

wherein said second annular anchor receives said surface
26 treatment, wherein said surface treatment modifies a surface
energy of said second annular anchor, and further wherein said
28 third and fourth plurality of rounded ridges on said second
annular anchor minimizes a delamination of said second potting
30 material from said second annular anchor, and increases a

32 surface area of said second annular anchor treatable through
said surface treatment.

Claim 16. (Original) The filter device according to claim
2 14 wherein each of said plurality of microfibers are hollow and
semipermeable.

Claims 17 and 18. (Canceled)

Claim 19. (Currently Amended) The filter device according
2 to claim ~~14~~15 further comprising:

a first plurality of radial channels perpendicular to said
4 first plurality of rounded ridges on said upper surface of said
first annular anchor; and

6 a second plurality of radial channels perpendicular to said
third plurality of rounded ridges on said upper surface of said
8 second annular anchor;

wherein said first and second plurality of radial channels
10 allow air to escape when said first and second potting material
is applied to said filter device.

Claim 20. (Original) The filter device according to claim
2 14 wherein said first ring is spin welded to said first end,
said second ring is spin welded to said second end, said first
4 flange cap is spin welded to said first ring, and said second
flange cap is spin welded to said second ring.

Claim 21. (Original) The filter device according to claim
2 20 further comprising:

a first plurality of nubs on an outer portion of said first
4 ring; and

a second plurality of nubs on an outer portion of said
6 second ring;

wherein said first and second plurality of nubs assist in
8 said spin welding.

Claim 22. (Original) The filter device according to claim
2 20 further comprising:

at least one annular channel located between said first
4 ring and said first end; and

at least one annular channel located between said second
6 ring and said second end;

wherein each of said at least one annular channel
8 accommodates a flow of flash material during said spin welding.

Claim 23. (Original) The filter device according to claim
2 20 further comprising:

at least one annular channel located between said first
4 ring and said first flange cap; and

at least one annular channel located between said second
6 ring and said second flange cap;

wherein each of said at least one annular channel
8 accommodates a flow of flash material during said spin welding.

Claim 24. (Original) The filter device according to claim
2 14 wherein said first ring is laser welded to said first end,
said second ring is laser welded to said second end, said first
4 flange cap is laser welded to said first ring, and said second
flange cap is laser welded to said second ring.

Claim 25. (Original) The filter device according to claim
2 14 wherein said housing is cylindrical in shape.

Claim 26. (Currently Amended) A filter device prepared by
2 a process comprising the steps of:

(a) joining a first ring to a first end of a housing
4 wherein said first ring has a first annular anchor on an
interior portion of said first ring, wherein said first annular
6 anchor has an upper surface and a lower surface;

(b) inserting a plurality of microfibers within said
8 housing that extend to said first ring;

(c) encasing said plurality of microfibers and said upper
10 surface and said lower surface of said first annular anchor at
said first ring with a first potting material forming a first
12 seal;~~and~~

(d) joining a first flange cap to said first ring forming
14 a second seal, wherein said first flange cap is separated from
contact with said first end of said housing by said first ring;

16 (e) forming a first plurality of rounded ridges on an
upper surface of said first annular anchor;

18 (f) forming a second plurality of rounded ridges on a
lower surface of said first annular anchor; and

20 (g) treating said first annular anchor with a surface
treatment, wherein said surface treatment modifies a surface
22 energy of said first annular anchor, and further wherein said
first and second plurality of rounded ridges on said first
24 annular anchor minimizes a delamination of said first potting
material from said first annular anchor, and increases a surface
26 area of said first annular anchor treatable through said surface
treatment.

Claim 27. (Previously Presented) A filter device prepared
2 by a process according to claim 26 wherein said encasing step
(c) further comprises the steps (c1) through (c6):

4 (c1) attaching a first potting cap to said first ring to
close off said first end;

6 (c2) placing said housing in a centrifuge to allow rotation
about an axis of rotation perpendicular to a longitudinal axis

8 of said housing, wherein said axis of rotation extends through a
midpoint of said housing;

10 (c3) injecting said first potting material into said
housing proximate to said first end;

12 (c4) spinning said housing in said centrifuge causing said
first potting material to set and harden, encasing said
14 plurality of microfibers and said upper surface and said lower
surface of said first annular anchor at said first ring at said
16 first end forming said first seal;

(c5) removing said first potting cap; and

18 (c6) cutting said first potting material and said plurality
of microfibers at said first end through a first plane
20 perpendicular to said longitudinal axis, exposing an interior
channel of each of said plurality of microfibers at said first
22 end.

Claim 28. (Currently Amended) A filter device prepared by
2 a process according to claim 26 further comprising the steps of:

(eh) joining a second ring to a second end of said housing
4 wherein said second ring has a second annular anchor on an
interior portion of said second ring, wherein said second
6 annular anchor has an upper surface and a lower surface;

(fi) extending said plurality of microfibers within said
8 housing to said second ring;

(gj) encasing said plurality of microfibers and said upper
10 surface and said lower surface of said second annular anchor at
said second ring with a second potting material forming a third
12 seal;—and

(hk) joining a second flange cap to said second ring
14 forming a fourth seal;—

(l) forming a third plurality of rounded ridges on an
16 upper surface of said second annular anchor; and

18 (m) forming a fourth plurality of rounded ridges on a
lower surface of said second annular anchor; and
20 (n) treating said second annular anchor with said surface
treatment, wherein said surface treatment modifies a surface
22 energy of said second annular anchor, and further wherein said
third and fourth plurality of rounded ridges on said second
24 annular anchor minimizes a delamination of said second potting
material from said second annular anchor, and increases a
26 surface area of said second annular anchor treatable through
said surface treatment.

Claim 29. (Currently Amended) A filter device prepared by
2 a process according to claim 28 wherein said encasing step (g_j)
further comprises the steps (g_{1j1}) through (g_{6j6}):
4 (g_{1j1}) attaching a second potting cap to said second
ring to close off said second end;
6 (g_{2j2}) placing said housing in said centrifuge to allow
rotation about said axis of rotation perpendicular to said
8 longitudinal axis of said housing, wherein said axis of rotation
extends through said midpoint of said housing;
10 (g_{3j3}) injecting said second potting material into said
housing proximate to said second end;
12 (g_{4j4}) spinning said housing in said centrifuge causing
said second potting material to set and harden, encasing said
14 plurality of microfibers and said upper surface and said lower
surface of said second annular anchor at said second ring at
16 said second end of said housing forming said third seal;
(g_{5j5}) removing said second potting cap; and
18 (g_{6j6}) cutting said second potting material and said
plurality of microfibers at said second end through a second
20 plane perpendicular to said longitudinal axis, exposing said
interior channel of each of said plurality of microfibers at
22 said second end.

Claim 30. (Currently Amended) A filter device prepared by
a process according to claim 28 wherein said joining steps (a),
(d), (eh), and (hk) further comprise the steps (a1), (d1),

(e1h1), and (h1k1):

(a1) spin welding said first ring to said first end;

(d1) spin welding said second ring to said second end;

(e1h1) spin welding said first flange cap to said first
ring; and

(h1k1) spin welding said second flange cap to said
second ring.

Claim 31. (Original) A filter device prepared by a process
according to claim 30 further comprising:

forming a first plurality of nubs on an outer portion of
said first ring; and

forming a second plurality of nubs on an outer portion of
said second ring;

wherein said first and second plurality of nubs assist in
said spin welding.

Claim 32. (Original) A filter device prepared by a process
according to claim 30 further comprising:

forming at least one annular channel between said first
ring and said first end; and

forming at least one annular channel between said second
ring and said second end;

wherein each of said at least one annular channel
accommodates a flow of flash material during said spin welding.

Claim 33. (Original) A filter device prepared by a process
according to claim 30 further comprising:

forming at least one annular channel between said first
4 ring and said first flange cap; and
forming at least one annular channel between said second
6 ring and said second flange cap;
wherein each of said at least one annular channel
8 accommodates a flow of flash material during said spin welding.

Claim 34. (Currently Amended) A filter device prepared by
2 a process according to claim 28 wherein said joining steps (a),
(d), (eh), and (hk) further comprise the steps (a1), (d1),
4 (e1h1), and (h1k1):
(a1) laser welding said first ring to said first end;
6 (d1) laser welding said second ring to said second end;
(e1h1) laser welding said first flange cap to said first
8 ring; and
(h1k1) laser welding said second flange cap to said
10 second ring.

Claim 35. (Original) A filter device prepared by a process
2 according to claim 26 further comprising:
forming a first fluid inlet port in said first flange cap;
4 forming a first fluid outlet port in said second flange
cap;
6 forming a second fluid inlet port through said housing and
proximate to said first end; and
8 forming a second fluid outlet port through said housing and
proximate to said second end;
10 wherein a first fluid pathway is defined by said first
fluid inlet port, said plurality of microfibers, and said first
12 fluid outlet port; and
further wherein a second fluid pathway is defined by said
14 second fluid inlet port, a space between said plurality of
microfibers, and said second fluid outlet port.

Claims 36 and 37. (Canceled)

Claim 38. (Currently Amended) A filter device prepared by
2 a process according to claim ~~37~~28 further comprising:

notching a first plurality of radial channels perpendicular
4 to said first plurality of rounded ridges on said upper surface
of said first annular anchor; and

6 notching a second plurality of radial channels
perpendicular to said third plurality of rounded ridges on said
8 upper surface of said second annular anchor;

wherein said first and second plurality of radial channels
10 allow air to escape when said first and second potting material
is applied to said filter device.

Claim 39. (Withdrawn) A filtering method comprising the
2 steps of:

(a) providing a filter device having a first ring joinable
4 to a first end of a housing wherein said first ring has a first
annular anchor on an interior portion of said first ring, a
6 plurality of microfibers within said housing that extend to said
first ring, a first potting material encasing said plurality of
8 microfibers and said first annular anchor at said first ring
forming a first seal, a first flange cap joinable to said first
10 ring forming a second seal, a second ring joinable to a second
end of said housing wherein said second ring has a second
12 annular anchor on an interior portion of said second ring, a
second potting material encasing said plurality of microfibers
14 and said second annular anchor at said second ring forming a
third seal, and a second flange cap joinable to said second ring
16 forming a fourth seal;

(b) flowing a first fluid through a first flow path
18 defined by a first fluid inlet port in said first flange cap,

through said plurality of microfibers, and flowing out of a
20 first fluid outlet port in said second flange cap; and
(c) flowing a second fluid through a second flow path
22 defined by a second fluid inlet port through said housing and
proximate to said first end, through a space between said
24 plurality of microfibers, and flowing out of a second fluid
outlet port through said housing and proximate to said second
26 end.

Claim 40. (Withdrawn) A filtering method according to
2 claim 39 wherein said first annular anchor and said second
annular anchor are treated with a surface treatment, wherein
4 said surface treatment modifies a surface energy of said first
annular anchor and said second annular anchor.

Claim 41. (Withdrawn) A filtering method according to
2 claim 40 wherein said first annular anchor has a first plurality
of rounded ridges on an upper surface and a second plurality of
4 rounded ridges on a lower surface, and said second annular
anchor has a third plurality of rounded ridges on an upper
6 surface and a fourth plurality of rounded ridges on a lower
surface;
8 wherein said first and second plurality of rounded ridges
and said third and fourth plurality of rounded ridges on said
10 first and second annular anchors minimize a delamination of said
first and second potting materials from said first and second
12 annular anchors, and increases a surface area of said first and
second annular anchors treatable through said surface treatment.

Claim 42. (Withdrawn) A filtering method according to
2 claim 41 wherein a first plurality of radial channels are
notched perpendicular to said first plurality of rounded ridges
4 on said upper surface of said first annular anchor, and a second

plurality of radial channels are notched perpendicular to said
6 third plurality of rounded ridges on said upper surface of said
second annular anchor;

8 wherein said first and second plurality of radial channels
allow air to escape when said first and second potting material
10 is applied to said filter device.

Claim 43. (Withdrawn) A filtering method according to
2 claim 39 wherein said first fluid flowing in said first flow
path flows in a countercurrent direction to said second fluid
4 flowing in said second flow path.

Claim 44. (Withdrawn) A filtering method according to
2 claim 39 wherein said first fluid is blood and said second fluid
is dialysate and further comprising the steps of:

4 connecting an arterial blood line to said first fluid inlet
port;

6 connecting a venous blood line to said first fluid outlet
port;

8 connecting a dialysate supply line to said second fluid
inlet port;

10 connecting a dialysate return line to said second fluid
outlet port;

12 wherein impurities in said blood diffuse through said
plurality of microfibers into said dialysate, and further
14 wherein nutrients diffuse through said plurality of microfibers
into said blood.

Claim 45. (Currently Amended) A filter device comprising:
2 a housing having a first end;
a first ring joinable to said first end wherein said first
4 ring has a first annular anchor on an interior portion of said
first ring, wherein said first annular anchor has an upper

6 surface and a lower surface, and further wherein said first
annular anchor receives a surface treatment, wherein said
8 surface treatment modifies a surface energy of said first
annular anchor;

10 a first flange cap joinable to said first ring forming a
first seal, wherein said first flange cap is separated from
12 contact with said first end of said housing by said first ring;

a plurality of microfibers extending from said first ring
14 through said housing, ~~and~~;

a first potting material encasing said plurality of
16 microfibers at said first ring and encasing said upper surface
and said lower surface of said first annular anchor forming a
18 second seal; and

a first plurality of rounded ridges on said upper surface
20 of said first annular anchor and a second plurality of rounded
ridges on said lower surface of said first annular anchor;

22 wherein said first and second plurality of rounded ridges
on said first annular anchor minimizes a delamination of said
24 first potting material from said first annular anchor, and
increases a surface area of said first annular anchor treatable
26 through said surface treatment.

Claim 46. (Currently Amended) The filter device according
2 to claim 45 further comprising:

a second end of said housing opposite said first end;

4 a second ring joinable to said second end wherein said
second ring has a second annular anchor on an interior portion
6 of said second ring, wherein said second annular anchor has an
upper surface and a lower surface, and further wherein said
8 second annular anchor receives said surface treatment, wherein
said surface treatment modifies a surface energy of said second
10 annular anchor;

a second flange cap joinable to said second ring forming a
12 third seal;—and

a second potting material encasing said plurality of
14 microfibers at said second ring and encasing said upper surface
and said lower surface of said second annular anchor forming a
16 fourth seal; and

a third plurality of rounded ridges on said upper surface
18 of said second annular anchor and a fourth plurality of rounded
ridges on said lower surface of said second annular anchor;

20 wherein said third and fourth plurality of rounded ridges
on said second annular anchor minimizes a delamination of said
22 second potting material from said second annular anchor, and
increases a surface area of said second annular anchor treatable
24 through said surface treatment.

Claim 47. (Original) The filter device according to claim
2 46 further comprising:

a first fluid inlet port through said first flange cap;

4 a first fluid outlet port through said second flange cap,
wherein a first fluid pathway is defined by said first fluid
6 inlet port, said plurality of microfibers, and said first fluid
outlet port;

8 a second fluid inlet port through said housing and
proximate to said first end; and

10 a second fluid outlet port through said housing and
proximate to said second end, wherein a second fluid pathway is
12 defined by said second fluid inlet port, a space between said
plurality of microfibers, and said second fluid outlet port.

Claim 48. (Canceled)

Claim 49. (Currently Amended) The filter device according
2 to claim ~~48~~—46 further comprising:

a first plurality of radial channels perpendicular to said
4 first plurality of rounded ridges on said upper surface of said
first annular anchor; and

6 a second plurality of radial channels perpendicular to said
third plurality of rounded ridges on said upper surface of said
8 second annular anchor;

wherein said first and second plurality of radial channels
10 allow air to escape when said first and second potting material
is applied to said filter device.

Claim 50. (Previously Presented) A filter device
2 comprising:

a housing having a first end;

4 a first ring joinable to said first end wherein said first
ring has a first annular anchor on an interior portion of said
6 first ring;

a first plurality of rounded ridges on an upper surface of
8 said first annular anchor and a second plurality of rounded
ridges on a lower surface of said first annular anchor;

10 a first flange cap joinable to said first ring forming a
first seal, wherein said first flange cap is separated from
12 contact with said first end of said housing by said first ring;

a plurality of microfibers extending from said first ring
14 through said housing; and

a first potting material encasing said plurality of
16 microfibers at said first ring, and encasing said first
plurality of rounded ridges on said upper surface and said
18 second plurality of rounded ridges on said lower surface of said
first annular anchor, forming a second seal;

20 wherein said first and second plurality of rounded ridges
on said first annular anchor minimizes a delamination of said
22 first potting material from said first annular anchor.

Claim 51. (Original) The filter device according to claim

2 50 further comprising:

a second end of said housing opposite said first end;

4 a second ring joinable to said second end wherein said
second ring has a second annular anchor on an interior portion
6 of said second ring;

a third plurality of rounded ridges on an upper surface of
8 said second annular anchor and a fourth plurality of rounded
ridges on a lower surface of said second annular anchor;

10 a second flange cap joinable to said second ring forming a
third seal; and

12 a second potting material encasing said plurality of
microfibers at said second ring, and encasing said third
14 plurality of rounded ridges on said upper surface and said
fourth plurality of rounded ridges on said lower surface of said
16 second annular anchor, forming a fourth seal;

wherein said third and fourth plurality of rounded ridges
18 on said second annular anchor minimizes a delamination of said
second potting material from said second annular anchor.

Claim 52. (Original) The filter device according to claim

2 51 further comprising:

a first fluid inlet port through said first flange cap;

4 a first fluid outlet port through said second flange cap,
wherein a first fluid pathway is defined by said first fluid
6 inlet port, said plurality of microfibers, and said first fluid
outlet port;

8 a second fluid inlet port through said housing and
proximate to said first end; and

10 a second fluid outlet port through said housing and
proximate to said second end, wherein a second fluid pathway is
12 defined by said second fluid inlet port, a space between said
plurality of microfibers, and said second fluid outlet port.

Claim 53. (Original) The filter device according to claim
2 51 further comprising:

a first plurality of radial channels perpendicular to said
4 first plurality of rounded ridges on said upper surface of said
first annular anchor; and

6 a second plurality of radial channels perpendicular to said
third plurality of rounded ridges on said upper surface of said
8 second annular anchor;

wherein said first and second plurality of radial channels
10 allow air to escape when said first and second potting material
is applied to said filter device.

Claim 54. (Original) The filter device according to claim
2 51 wherein said first annular anchor and said second annular
anchor receive a surface treatment, wherein said surface
4 treatment modifies a surface energy of said first and second
plurality of rounded ridges on said first annular anchor and
6 said third and fourth plurality of rounded ridges on said second
annular anchor, and further wherein said first and second
8 plurality of rounded ridges and said third and fourth plurality
of rounded ridges increases a surface area of said first and
10 second annular anchors treatable through said surface treatment.

Claim 55. (Currently Amended) A filter device comprising:
2 a housing having a first end;
a first ring joinable to said first end wherein said first
4 ring has a first annular anchor on an interior portion of said
first ring, wherein said first annular anchor has an upper
6 surface and a lower surface;

a first flange cap joinable to said first ring forming a
8 first seal, wherein said first flange cap is separated from
contact with said first end of said housing by said first ring;

10 a plurality of microfibers extending from said first ring
through said housing;~~and~~

12 a first potting material encasing said plurality of
microfibers at said first ring and encasing said upper surface
14 and said lower surface of said first annular anchor forming a
second seal;~~and~~

16 at least one annular channel located between said first
ring and said first flange cap, wherein each of said at least
18 one annular channel accommodates a residue material during said
joining of said first flange cap to said first ring; and

20 a first plurality of rounded ridges on said upper surface
of said first annular anchor and a second plurality of rounded
22 ridges on said lower surface of said first annular anchor;

wherein said first annular anchor receives a surface
24 treatment, wherein said surface treatment modifies a surface
energy of said first annular anchor, and further wherein said
26 first and second plurality of rounded ridges on said first
annular anchor minimizes a delamination of said first potting
28 material from said first annular anchor, and increases a surface
area of said first annular anchor treatable through said surface
30 treatment.

Claim 56. (Currently Amended) The filter device according
2 to claim 55 further comprising:

a second end of said housing opposite said first end;

4 a second ring joinable to said second end wherein said
second ring has a second annular anchor on an interior portion
6 of said second ring, wherein said second annular anchor has an
upper surface and a lower surface;

8 a second flange cap joinable to said second ring forming a
third seal;

10 a second potting material encasing said plurality of
microfibers at said second ring and encasing said upper surface

12 and said lower surface of said second annular anchor forming a
fourth seal;~~and~~

14 at least one annular channel located between said second
ring and said second flange cap, wherein each of said at least
16 one annular channel accommodates a residue material during said
joining of said second flange cap to said second ring; and

18 a third plurality of rounded ridges on said upper surface
of said second annular anchor and a fourth plurality of rounded
20 ridges on said lower surface of said second annular anchor;

wherein said second annular anchor receives said surface
22 treatment, wherein said surface treatment modifies a surface
energy of said second annular anchor, and further wherein said
24 third and fourth plurality of rounded ridges on said second
annular anchor minimizes a delamination of said second potting
26 material from said second annular anchor, and increases a
surface area of said second annular anchor treatable through
28 said surface treatment.

Claim 57. (Original) The filter device according to claim
2 56 further comprising:

a first fluid inlet port through said first flange cap;

4 a first fluid outlet port through said second flange cap,
wherein a first fluid pathway is defined by said first fluid
6 inlet port, said plurality of microfibers, and said first fluid
outlet port;

8 a second fluid inlet port through said housing and
proximate to said first end; and

10 a second fluid outlet port through said housing and
proximate to said second end, wherein a second fluid pathway is
12 defined by said second fluid inlet port, a space between said
plurality of microfibers, and said second fluid outlet port.

Claim 58. (Original) The filter device according to claim

2 56 further comprising:

at least one annular channel located between said first
4 ring and said first end; and

at least one annular channel located between said second
6 ring and said second end;

wherein each of said at least one annular channel
8 accommodates a residue material during said joining of said
second ring to said second end.

Claims 59 and 60. (Canceled)

Claim 61. (Original) The filter device according to claim

2 56 further comprising:

a first plurality of radial channels perpendicular to said
4 first plurality of rounded ridges on said upper surface of said
first annular anchor; and

a second plurality of radial channels perpendicular to said
6 third plurality of rounded ridges on said upper surface of said
8 second annular anchor;

wherein said first and second plurality of radial channels
10 allow air to escape when said first and second potting material
is applied to said filter device.